CLAIMS:

1. A method for automatically determining a foreground color for a digital image, comprising:

(a) automatically dividing the colors of the pixels of at least a part of the digital image into a number of color clusters in a color space; and

(b) for at least one color cluster, automatically selecting a color being related to the at least one color cluster according to predetermined criteria.

2. The method according to claim 1, wherein said selecting at (b) further comprises:

selecting a harmonious color set with respect to the color clusters; and

testing the harmonious color set for legibility.

3. The method according to claim 2, wherein said testing the harmonious color set for legibility further comprises:

computing local measures of contrast between background and foreground in a neighborhood of a predetermined foreground region; and

computing a legibility score representative of a lowest few contrast values observed over the predetermined foreground region.

4. The method according to claim 2, wherein a color is selected according to a legibility criterion for a predetermined foreground region by:

computing local measures of contrast between background and foreground in a neighborhood for a predetermined foreground region; and

computing a legibility score representative of a lowest few contrast values observed over the predetermined foreground region.

5. The method according to claim 1, wherein said dividing at (a) comprises converting the image data to a predetermined color format.

6. The method according to claim 1, wherein said dividing at (a) comprises using an Expectation-Maximization clustering.

7. The method according to claim 1, wherein said dividing at (a) comprises determining the number of clusters using a model selection method one of

a Bayesian Information Criterion and a Universal Model-based Minimum Description Length Principle.

8. The method according to claim 1, further comprising automatically segmenting the part of the digital image into regions according to the color clusters before said selecting at (b).

9. The method according to claim 8, wherein the segmenting comprises using one of a normalized cut criterion and an energy-minimization method.

10. The method according to claim 1, wherein said selecting at (b) further comprises:

grouping the color clusters into interference clusters comprising a pixel in a selected region of the image and benign clusters comprising no pixel in the selected region; and

selecting a color being related to all interference clusters according to predetermined criteria.

11. The method according to claim 1, wherein a color is selected according to a legibility criterion for a predetermined foreground region.

12. The method according to claim 11, wherein a color is selected based on a likelihood ratio of the hypothesis that the digital image contains the foreground region and the hypothesis that the digital image does not contain the foreground region.

13. The method according claim 12, wherein selecting a color comprises computing the legibility of $\min_{x \in T} \max_{y \in C_\varepsilon^2} r(x+y)$, wherein $r(x) = h \log \frac{\Pr(I(x) \mid T)}{\Pr(I(x) \mid B)}$, C_ε^2 is a disc of radius ε and wherein $\Pr(I(x) \mid T)$ denotes heuristic or other models of likelihoods that the image I contains text T at a given pixel x and $\Pr(I(x) \mid B)$ denotes heuristic or other models of likelihoods that the image I contains background B at the given pixel x.

14. The method according to claim 1, wherein a color is selected according to a color harmony criterion.

15. The method according to claim 14, wherein a color is selected according to at least one of a monotonic, a complementary, and a p-adic color harmony criterion in HSL space.

16. The method according to claim 14, wherein a color is selected according to a color harmony criterion with respect to at least one interference cluster.

17. The method according to claim 14, wherein a color is selected according to a color harmony criterion with respect to at least one benign cluster.

18. The method according to claim 14, wherein a color is selected according to a color harmony criterion with respect to at least one interference cluster and at least one benign cluster.

19. The method according to claim 1, wherein said selecting at (b) comprises determining a color subset according to a color harmony criterion and maximizing a legibility function in the color subset.

20. The method according to claim 1, wherein a color c is selected for which $\sum_{i=1}^{M}\alpha_i l(c,P_i)+\sum_{k=1}^{N}\gamma_k h(c,K_k)$ is maximal, wherein P_i denote the interference clusters, K_k denote all clusters, both benign and interference, l is a legibility function in color space, h is a color harmony function, and α_i and γ_k are weighting factors.

21. The method according to claim 1, further comprising one of displaying and storing a predetermined object using the selected color together with the digital image.

22. A system for automatically determining a foreground color for a digital image, comprising:

a color clustering module configured to automatically divide the colors of the pixels of at least a part of the digital image into a number of color clusters in a color space; and

a color selection module configured to automatically select, for at least one color cluster, a color being related to the at least one color cluster according to predetermined criteria.

23. The system according to claim 22, further comprising a color segmentation module configured to automatically segment the part of the digital image into regions according to the color clusters.

24. A method for determining legibility of an image having an identified foreground and background, comprising:

computing local measures of contrast between background and foreground in a neighborhood for a predetermined foreground region of the image; and

computing a legibility score representative of a lowest few contrast values observed over the predetermined foreground region.

25. The method according to claim 24, wherein the lowest few contrast values observed over the predetermined foreground region is a minimum of all local measures taken over the predetermined foreground region.